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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/626,765

07/25/2003

Mamoru Chiku

0124/0010

1846

21395 7590 12/19/2006

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EXAMINER

TRAN, NHAN T

ART UNIT

PAPER NUMBER

2622

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

12/19/2006

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/626,765	Applicant(s) CHIKU ET AL.	
	Examiner Nhan T. Tran	Art Unit 2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 7/25/2003 & 10/14/2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-5 and 7-10 is/are rejected.
- 7) ☒ Claim(s) 2 and 6 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 10/14/2003 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Specification

3. The title of the invention ("Digital Camera") is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 1, 5, 9 & 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakaki et al. (US 2003/0117505 A1) in view of Kurokawa Hiromitsu (JP 05-292444).

Regarding claim 1, Sakaki et al. (hereafter referred as "Sakaki") discloses a digital camera (100 shown in Fig. 1 and paragraph [0001]) with which a recording medium (109) is connectable (paragraph [0009]), the digital camera comprising:

first means (media type sensor 112) for deciding whether a connected recording medium is of a first type (erasable/rewritable media) into and from which data can be written and erased a plurality of times or a second type (write-once or non-erasable media) into which data can be written only once (Fig. 1 and paragraph [0023]);

a recording switch (push-button shutter 105) arrangement having a first-stage switch (Figs. 1 & 2A and paragraphs [0020], [0026] and [0023], it is noted that "a first-stage switch" is the push level of shutter 105 for initiating recording an image into intermediate memory 106 or directly into the media 109 if the media is the erasable type);

second means (system controller 104) for writing still-picture data into the connected recording medium (Fig. 2A, step 230) when the first-stage switch is actuated in cases where the first means decides that the connected recording medium is of the first type (see paragraphs [0026], [0023] and [0009] in which a still image data is written directly into the media 109 when the shutter button is pushed if the media is the erasable type);

third means (system controller 104 in combination with display 107) for capturing data representative of a still picture and indicating the still picture represented by the captured data as a preview picture (Fig. 2B, step 242) in a case where the first means decides that the connected recording medium is of the second type (see Figs. 1 & 2B and paragraphs [0011] and [0030], wherein the captured image is displayed for the user to review and decide to keep or delete the image before recording the image into the media in a case the recording medium is the write-once type);

fourth means (system controller 104 in combination with media 109) for writing the captured data into the connected recording medium in a case where the first means decides that the connected recording medium is of the second type (steps 224, 232, 246 & 248 and paragraphs [0026]-[0027] & [0031] in which a "keep" button 108 is pressed to instruct writing the captured data from the intermediate memory 106 into the recording medium 109 if the medium is the write-once type. Note description of button 108 is shown in paragraph [0019]).

Although Sakaki teaches that the still image is previewed on the display before recording into the recording medium, and the still image data is written into the recording medium in response to a separate button ("keep" / "delete" button 108) as discussed above, Sakaki does not explicitly teach the recording switch having a second-stage switch so that the still image is displayed as a preview image when the first-stage switch is actuated and the still image data is written into the recording medium when the second-stage switch is actuated in case where the first-stage switch remains actuated.

However, Kurokawa teaches a camera having a single two-stroke release switch for capturing, previewing and recording a still image into a recording medium.

According to Kurokawa, to prevent unintended still pictures from being recorded into a memory while half pressing a still-picture recording switch, a still picture is captured and displayed in a viewfinder for a user to review until the user fully presses the still-picture recording switch for recording the picture into a recording medium (see Kurokawa, Abstract, Figs. 1-3 and paragraphs [0021] & [0022]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the digital camera in Sakaki in view of teaching of Kurokawa to make a two-stroke release switch having a first-stage switch and a second-stage switch for capturing and previewing a still image on the display when the first-stage switch is actuated (half-pressed) and for recording the captured still image into the write-once medium when the second-stage switch is actuated (fully-pressed) where the first-stage switch maintains actuated. As doing this would prevent unintended still pictures from being recorded into the write-once medium of Sakaki (since image data cannot be erased once it was written) and also eliminate the use of a separate button 108 in Sakaki, thereby simplifying circuitry for a compact and low-cost camera.

Regarding claim 5, all limitations of claim 5 are also met by the combined teachings of Sakaki and Kurokawa as analyzed in claim 1. It should be noted that the limitations "a button being movable among an undepressed position, a first depressed

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position, and a second depressed position, and passing through the first depressed position as moving from the undepressed position to the second depressed position” are met by the two-stroke release switch taught by Kurokawa in which a first undepressed position is shown in Fig. 2(a), a first depressed position (half-pressed position) is shown in Fig. 2(b), and a second depressed position (fully-pressed position) passing through the first depressed position is shown in Fig. 2(c). The limitations “first still-picture data” and “second still-picture data” are *respectively* met by the still-picture data recorded into the recording medium of the first type (erasable/rewritable media) and the still-picture data recorded into the recording medium of the second type (write once or non-erasable media) as discussed in claim 1.

Regarding claim 9, all limitations of claim 9 are also met by the combined teachings of Sakaki and Kurokawa as analyzed in claim 1. Also, note that the limitation “a data writer” is the system controller 104 (Sakaki, Fig. 1).

Regarding claim 10, all limitations of claim 10 are also met by the combined teachings of Sakaki and Kurokawa as analyzed in claims 1, 5 and 9. It should be noted that “a first device” is the media type sensor 112 (Sakaki, Fig. 1), and “a second device” is the system controller 104 in conjunction with display 107 as analyzed in claim 1.

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5. Claims 3 & 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakaki et al. (US 2003/0117505 A1) and Kurokawa Hiromitsu (JP 05-292444) and in further view of Parulski et al. (US 6,292,218 B1).

Regarding claim 3, Sakaki in view of Kurokawa as analyzed in claim 1 teaches an imager (CCD or CMOS image sensor) for sequentially taking pictures (see Sakaki, paragraphs [0011] and [0009]). Sakaki further teaches focus and exposure are also performed automatically by the camera (Sakaki, paragraph [0018]). However, Sakaki and Kurokawa are silent about fifth means for automatically controlling a focus and an exposure with respect to the pictures taken by the imager **independent** of an operating condition of the recording switch arrangement.

As taught by Parulski et al. (hereafter referred as "Parulski"), an electronic camera is implemented with automatic focus and automatic exposure that are performed by a controller (ASIC 27) during real-time preview of motion images (continuous images read out from an image sensor 20 to assist a live-view mode) on an electronic viewfinder (LCD 10) without operating a recording switch arrangement (capture switch 16) such that real-time images are displayed with an acceptable quality after performing automatic focus and exposure for the user to preview prior to initiation of the recording switch (see Parulski, col. 4, lines 15-34 and col. 2, lines 26-31).

Therefore, it would have been obvious to one of ordinary skill in the art to further include the teaching of Parulski for modifying the digital camera in Sakaki and Kurokawa by implementing fifth means for automatically controlling a focus and an

exposure with respect to images taken by the imager independent of an operating condition of the recording switch arrangement so that real-time images are displayed with an acceptable image quality for the user to preview prior to initiation of the recording switch.

Regarding claim 7, all limitations of claim 7 are also met by the analysis of claim 3.

6. Claims 4 & 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakaki et al. (US 2003/0117505 A1) and Kurokawa Hiromitsu (JP 05-292444) and in further view of Nozaki et al. (US 2005/0151858 A1).

Regarding claim 4, the combined teachings of Sakaki and Kurokawa as analyzed in claim 1 do not disclose fifth means for indicating, to a user, functions disabled with respect to a recording medium of the second type and enable with respect to a recording medium of the first type.

In the same field of endeavor for detecting a type of memory inserted into a digital camera, Nozaki teaches a process to detect whether a write-once storage medium (4) or an overwritable storage medium (4) is inserted into a memory card slot (Fig. 1 and paragraph [0138]). If a write-once storage medium is detected, the display (LCD 6) indicates to the user that a normal delete function and protect function are disabled by not showing these functions on the displayed menu (Fig. 5, S43, S46), and

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only a special delete function is displayed. On the other hand, if an overwritable storage medium is detected, the display indicates to the user that all delete and protect functions are enabled by showing these functions on the displayed menu (see Nozaki, Fig. 5 and paragraphs [0139]-[0140] and [0146]). Such an indication would quickly make the user be aware of the functions of the camera with respect to different types of memories in a user-friendly fashion so as to guide the user to a proper action with respect to a captured image.

Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Sakaki and Kurokawa with Nozaki to configure the digital camera with fifth means for indicating to a user functions disabled with respect to a recording medium of the second type (write-once type) and enabled with respect to a recording medium of the first type (erasable/rewritable type) so as to guide the user to a proper action with respect to a captured image in a user-friendly fashion.

Regarding claim 8, all limitations of claim 8 are also met by the analysis of claim 4.

Allowable Subject Matter

7. Claims 2 and 6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 2, the prior art of record fails to teach or fairly suggest the combination of limitations of claim 2 that includes “**seventh means for inhibiting the second means and the third means from responding to actuation of the first-stage switch and for giving a warning to a user in cases where the sixth means decides that the detected amount is not greater than the threshold value; eighth means for setting the threshold value to a first value when the first means decides that the connected recording medium is of the first type; and ninth means for setting the threshold value to a second value greater than the first value when the first means decides that the connected recording medium is of the second type.**”

Regarding claim 6, the prior art of record fails to teach or fairly suggest the combination of limitations of claim 6 that includes “**seventh means for inhibiting the second means and the fourth means from writing the first still-picture data and the second still-picture data into the connected recording medium and for giving a warning in cases where the sixth means decides that the detected amount is not greater than the threshold value; eighth means for setting the threshold value to a first value when the first means decides that the connected recording medium is of the first type; and ninth means for setting the threshold value to a second value greater than the first value when the first means decides that the connected recording medium is of the second type.**”

8. The following are closest references found relating to controlling operations of electronic devices responsive to detection of low battery/power supply:

Kaku (US 6,903,778) discloses an electronic camera that includes a mode change switch. This mode change switch selects a still image recording mode to record one scene of an image signal to a recording medium, and a continuous image recording mode to record a plurality of scenes of continuous image signals to the memory medium. In the still recording mode, a battery remaining capacity goes below 5%, the shutter button is disabled in operation. In the continuous image recording mode, when the battery remaining capacity goes below 25%, the shutter button is disabled in operation. These threshold values are related to a consumed power required for recording the image signal taken in each of the modes.

Yamamoto (US 5,864,726) discloses an operation control device that is provided in an electro-developing type camera using a recording medium which electronically develops an image formed by a photographing optical system. An electric charge in a battery is sensed. When the electric charge remaining in the battery is lower than a second threshold value, which is lower than a first threshold value, the recording operation is prohibited. When the electric charge remaining in the battery is lower than the first threshold value and higher than the second threshold value, the recording operation is permitted and the reading operation is prohibited. Accordingly, during the reading operation, the electric charge remaining in the battery cannot become lower than the first threshold value, and thus the reading operation can be carried out.

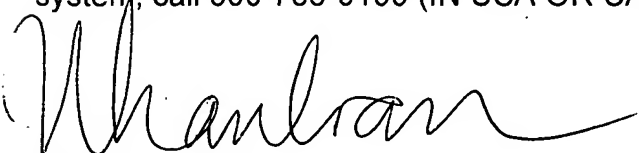
However, none of cited references teaches or fairly suggest the claimed limitations required by claims 2 and 6 as stated above.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nhan T. Tran whose telephone number is (571) 272-7371. The examiner can normally be reached on Monday - Friday, 8:00am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Ometz can be reached on (571) 272-7593. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



NHAN T. TRAN
Patent Examiner